

## Chapter 15

# Twitter Sentiment Data Analysis of User Behavior on Cryptocurrencies: Bitcoin and Ethereum

**Hasitha Ranasinghe**

*Charles Sturt University, Australia*

**Malka N. Halgamuge**

 <https://orcid.org/0000-0001-9994-3778>

*The University of Melbourne, Australia*

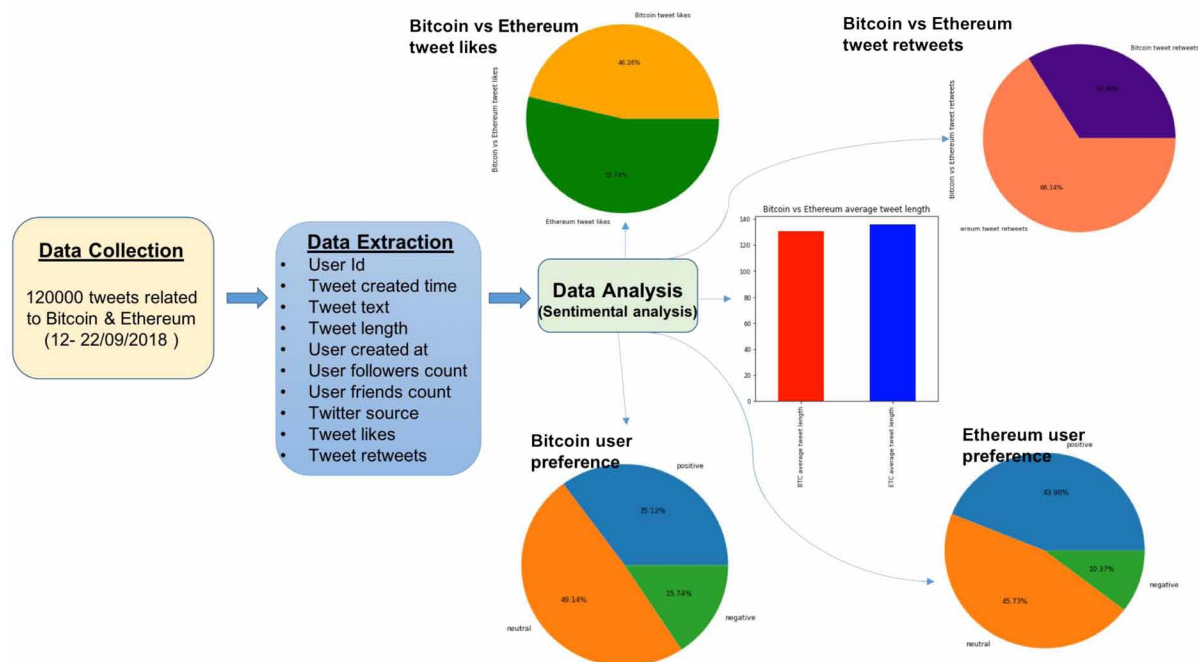
### ABSTRACT

*Social networks such as Twitter contain billions of data of users, and in every second, a large number of tweets trade through Twitter. Sentiment analysis is the way toward deciding the emotional tone behind a series of words that users utilize to understand the attitudes, thoughts, and emotions that are enunciated in online references on Twitter. This chapter aims to determine the user preference of Bitcoin and Ethereum, which are the two most popular cryptocurrencies in the world by using the Twitter sentiment analysis. It proposes a powerful and fundamental approach to identify emotions on Twitter by considering the tweets of these two distinctive cryptocurrencies. One hundred twenty thousand (120,000) tweets were extracted separately from Twitter for each keyword Bitcoin/BTC and Bitcoin/ETC between the period from 12/09/2018 to 22/09/2018 (10 days).*

DOI: 10.4018/978-1-7998-4718-2.ch015

## INTRODUCTION

Figure 1.



The footstep in big data analysis is to accumulate the data. This is called “data mining” (Hewage et al., 2018). Those data can be from any source. There are lots of data sources where we can collect a huge number of data. Twitter is one of the best sources used in data science. It is also free social networking media that allows users to broadcast tweets. These tweets are known as short messages used to send tweets (short messages) for all kind of reasons such as pride, attention, dullness, help, to become famous etc. The vast majority of users use Twitter for fun, giving a shout out to the world and ensure to distribute ideas within communities. Unlike other social platforms, every user’s tweets are entirely public and able to retrieve. Twitter data can be accessed by general public perception and how they sense topics. Twitter’s API allows developers to pull data. However, some limitations are included (Wu et al., 2011).

Sentiment analysis is the process of determining the emotional tone behind a series of words that can be used to understand the attitudes, thoughts, and emotions articulated in online references. It is very beneficial in monitoring social media (Singh et al., 2018; Hewage et al., 2018) since it enables us to present broader public opinion about specific topics. It can also be a significant part of market research and approach to customer service.

Cryptocurrency is a digital or virtual currency designed to work as a medium of exchange that uses cryptography for security. Cryptocurrency is also an equivalent electronic currency (Bohr et al., 2018). Bitcoin has a rapid rise in the price of a virtual currency over the past few months. The basis for creating Bitcoin and all subsequent virtual treaties is to address some perceived deficiencies by way of payment being made from one party to another. The most famous cryptocurrency is bitcoin which makes everyone

13 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/twitter-sentiment-data-analysis-of-user-behavior-on-cryptocurrencies/264943](http://www.igi-global.com/chapter/twitter-sentiment-data-analysis-of-user-behavior-on-cryptocurrencies/264943)

## Related Content

---

### On the Effectiveness of Social Tagging for Resource Discovery

Dion Hoe-Lian Goh, Khasfariyati Razikin, Alton Y.K. Chua, Chei Sian Lee and Schubert Foo (2010). *Social Computing: Concepts, Methodologies, Tools, and Applications* (pp. 1778-1787).

[www.irma-international.org/chapter/effectiveness-social-tagging-resource-discovery/39822](http://www.irma-international.org/chapter/effectiveness-social-tagging-resource-discovery/39822)

### Use and Participation in Virtual Social Networks: A Theoretical Model

Margherita Pagani and Charles Hofacker (2010). *International Journal of Virtual Communities and Social Networking* (pp. 1-17).

[www.irma-international.org/article/use-participation-virtual-social-networks/43063](http://www.irma-international.org/article/use-participation-virtual-social-networks/43063)

### Enterprise 2.0 and 3.0 in Education: Engineering and Business Students' View

Jelena Zašcerinska, Andreas Ahrens and Olaf Bassus (2012). *Handbook of Research on Business Social Networking: Organizational, Managerial, and Technological Dimensions* (pp. 472-494).

[www.irma-international.org/chapter/enterprise-education-engineering-business-students/60326](http://www.irma-international.org/chapter/enterprise-education-engineering-business-students/60326)

### Encouraging Communication Through the Use of Educational Social Media Tools

Melissa Barnes (2018). *Social Media in Education: Breakthroughs in Research and Practice* (pp. 153-164).

[www.irma-international.org/chapter/encouraging-communication-through-the-use-of-educational-social-media-tools/205706](http://www.irma-international.org/chapter/encouraging-communication-through-the-use-of-educational-social-media-tools/205706)

### "I've Got a Situation and Would Appreciate Your Experience": An Extra-Organizational Virtual Community of Practice for Independent Professionals

Enrique Murillo (2012). *International Journal of Virtual Communities and Social Networking* (pp. 52-80).

[www.irma-international.org/article/got-situation-would-appreciate-your/75779](http://www.irma-international.org/article/got-situation-would-appreciate-your/75779)